

AMENDMENTS TO THE CLAIMS

The listing below of the claims will replace all prior versions and listings of claims in the present application:

Listing of Claims:

Claim 1 (currently amended): A method of producing a molybdenum-silicide-based heating element, said method comprising the steps of:

providing powdered molybdenum ~~aluminum-silicide~~ aluminosilicide material $\text{Mo}(\text{Si}_{1-y}\text{Al}_y)_2$;

mixing the powdered molybdenum ~~aluminum-silicide~~ $\text{Mo}(\text{Si}_{1-y}\text{Al}_y)_2$ aluminosilicide material with SiO_2 to provide a heating element material mixture, wherein the SiO_2 is at least 98% pure, and wherein the heating element material mixture is free of bentonite;

forming a heating element from the heating element material mixture to provide a formed heating element; and

sintering the formed heating element, wherein after sintering the formed heating element contains substantially $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$ and Al_2O_3 , wherein x lies in the range of 0.4 – 0.6, and the heating element includes on its surface an oxide layer consisting essentially of Al_2O_3 that does not peel from the surface of the formed heating element under thermal cycling of the formed heating element between room temperature and about 1500°C, so that heating oven contamination in the form of

peeled ~~heating element~~ oxide layer particles from the formed heating element within a heating oven containing the formed heating element is prevented.

Claim 2 (currently amended): A method according to Claim 1, wherein the SiO_2 present in the heating element material mixture is a silicate that does not affect molybdenum silicide crystal lattice symmetry.

Claim 3 (canceled)

Claim 4 (previously presented): A method according to Claim 1, wherein x lies in the range of 0.45 - 0.55.

Claim 5 (currently amended): A method according to Claim 1, including the step of partially substituting at least one of Re and W for molybdenum in the aluminosilicide material $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$.

Claim 6 (previously presented): An electrical heating element produced in accordance with the method claimed in claim 1.

Claim 7 (canceled)

Claim 8 (previously presented): A heating element according to Claim 6, wherein x lies in the range of 0.45 - 0.55.

Claim 9 (currently amended): A heating element according to Claim 6, wherein molybdenum in the aluminosilicide material $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$ is partially replaced with at least one of Re and W.

Claim 10 (previously presented): A method according to claim 2, wherein the silicate is mullite.

Claim 11 (previously presented): A method according to claim 2, wherein the silicate is sillimanite.